DOCUMENT RESUME

ED 250 740 CS 504 749

AUTHOR Neal, Kay
TITLE Effects of Evidential Information on the Perceived Outcome in Employer-Employee Decision-Making Situations.
PUB DATE Apr 83
NOTE 39p.; Paper presented at the Annual Meeting of the Central States Speech Association (Lincoln, NE, April 7-9, 1983).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS College Students; *Communication Research; *Decision Making; *Employer Employee Relationship; Higher Education; *Interpersonal Communication; Interpersonal Relationship; *Perception; *Persuasive Discourse; Sex Differences; Speech Communication
IDENTIFIERS *Evidence

ABSTRACT

An edited version of a 10-item instrument titled "Decision" was administered to 240 freshman students enrolled in speech courses to discover whether there were differential effects on the stability of a decision when the evidence used was fact or opinion and whether there were differential effects on the stability of the decision depending upon the sex of the persuader and persuadee in interpersonal decision-making situations. The instrument described 10 situations in which an individual with the power to make a decision had done so. The employer (persuadee) was then approached by the employee (persuader) who attempted to convince the employer to revoke or change the decision. Among the conclusions supported by the findings were the following: (1) the addition of opinion evidence during a persuasive attempt in an everyday situation decreased the perceived stability of the decision significantly as compared to no evidence; (2) the addition of factual evidence decreased the perceived stability of the decision significantly as compared to no evidence; (3) the addition of factual evidence decreased the perceived stability of the decision significantly as compared to opinion evidence; (4) the perceived stability of the decision with the addition of evidence did not vary significantly depending upon the sex of the persuader or the persuadee; and (5) there were no significant relationships between any of the factors of evidence, sex of the persuader, and sex of the persuadee. (HOD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED250740

Effects of Evidential Information on the Perceived Outcome In Employer-Employee Decision-Making Situations

By

Kay Neal

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Kay E. (Pietscher) Neal
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

A Paper Presented At
The Central States Speech Convention
Lincoln, Nebraska
April 7-9, 1983

CS 504749

Section I

Problem and Definition of Terms

Contemporary communication theorists generally accept the thesis that well documented evidential support enhances the persuasiveness of messages. Quantitative studies, however, lead some researchers to question whether evidence has any value in enhancing a message's persuasive effect. After reviewing the available quantitative research in 1964, Richard Gregg concluded, "The audience reaction to an argument may have little or nothing to do with whether the argument includes fully documented or completely undocumented evidence, relevant or irrelevant evidence, or any evidence at all."[1] The five major studies examined by Gregg, however, were based upon the short public speech on a "current events" topic. This type of conceptualization of persuasive endeavors has characterized much of the quantitative work in persuasion, as well as much thinking in the field of speech communication.

Research on the stability of decisions offers an alternative conceptualization that is, in many ways, more typical of persuasive interpersonal situations encountered in one's everyday activities. Basically, this paradigm focuses upon the factors involved in destabilizing an already announced decision. If one's employer, for instance, announces a policy designed to increase efficiency in one's work schedule, what factors are likely to be effective in enabling one to change that decision? The traditional paradigm would treat this situation as an occasion for a persuasive attempt, either oral of written. The alternative paradigm would focus on what appears to be more basic considerations. What is the status relationships between the persuader and the persuadee? What effect does the sex of one have vis a vis the sex of the other? Is the

decision made by an individual or by a committee?

One well established principle in social psychology advanced by Asch,[2] suggests another factor that might be prominent in affecting the stability of interpersonal decisions. Asch has suggested that individuals will use all available information in making a decision. Bradac, Sardell, and Wenner further emphasize that a rational model of behavior assumes that persons will seek fact and opinions from competent sources and that such data will compel a choice.[3] One might infer, then, that the addition of information to decision-making situations in an organization may well affect the perceived stability of that situation. Drawing upon the traditional thesis of speech communication mentioned at the outset, one might theorize that a business situation, in which the persuader wishes the decision overturned, ought to be perceived as less stable if sound evidence is available than the same situation in which evidence is not available. If evidence affects the perceptions of decision stability, it would appear inappropriate to measure the net persuasive effects of various quantities and qualities of evidential support added to messages. It would suggest, instead, that one needs to utilize the framework of an interpersonal decision-making situation to measure the extent to which persuadees perceive the stability of a decision based upon the quantity of information. This may be a more accurate means of assessing the evidential effect. Hample provides further support for this idea when he writes,

> The challenge is to test evidence in the way it is usually viewed, instead of treating the debater's quotation as the prototype. It is not enough to merely know how much evidence appears. The researcher also needs to estimate the probative power of the evidence in order to test the traditional view of evidence's importance to persuasion.[4]

The primary purpose of this study is to discover if evidence affects the perceived stability of decisions as measured by the instrument called "Decisions." Secondarily, the study attempts to discover whether there are differential effects on the stability of decision when the evidence employed is "fact" or "opinion." Finally, the study attempts to discover whether there are differential effects on the stability of decisions depending upon the sex of the persuader and persuadee in interpersonal decision-making situations.

Background and Statement of the Problem

As stated previously, the contention that both quantity and quality of evidential support will enhance the perceived persuasiveness of messages is widely accepted by theorists of argumentation and persuasion. Several empirical studies designed to test that thesis provide only minimal support, however, while other studies conclude that evidence has no perceived influence in persuasive messages. Because of such conflicting results, there have been a number of hypotheses advanced to explain the lack of support discovered for the thesis, but comparatively little research has been conducted to support any of these hypotheses. Therefore, before offering explanations for the negative results, it is necessary to conduct research designed to discover the conditions under which evidence does or does not operate to produce differential receiver effects.

The instrument called "Decisions" suggests one way of testing a potential evidential effect; namely, whether evidence affects the perceived stability of interpersonal decisions. The "Decisions" instrument was validated as an effective measure of determining changes in perceived stability of decisions in prior research.[5] The instrument also appears to deal with situations which, when compared to situations involving

short, formal speeches on current events topics, are relatively more typical of everyday kinds of decisions with which many people are confronted. If Asch's theory is true, a person will use all available information in making a decision, then a decision-making situation between two individuals within an organization may well be the most appropriate framework for testing the impact of evidence. Rogers and Rogers provide the rationale.

> Information represents a reduction in uncertainty. An organization is constantly trying to gain information from its environment about the likelihood that some event might happen and thus reduce its uncertainty. For example, a business firm has a market research department to measure changes in its customers' likely buying behavior. An army unit has an intelligence section in order to learn as much as possible about the likely actions of the enemy. These boundary-spanning mechanisms allow the organization to gain information about certain alternatives, and thus, reduce its uncertainty.[6]

The evidence studies examined in this paper's review of pertinent literature confine themselves to investigating the effects of evidence as it relates to a persuasive public speaking situation. In the previous research, the evidence was merely plugged in throughout the oral presentation to lend support to assertions. Therefore, all of the previous conclusions were linked to the public speaking forum and may not be applicable to other given situations. As William Dresser suggests, people may view public speeches as a performance rather than a source of information to use in rational decision-making.[7] Thus, a study on the perceived stability of decisions attributed to the addition of evidence in an everyday decision-making situation may reveal significant different results.

With this concept in mind, the following research questions were formulated.

Research Questions

1. Is there a difference in the perceived stability of a decision in employer-employee decision-making situations in which no formal evidence appeared and those same situations to which fact evidence has been added and to which opinion evidence has been added?

2. Will the perceived stability of the decision during a persuasive attempts in an employer-employee decision-making situation vary significantly with the sex of the persuader?

3. Will the perceived stability of the decision during a persuasive attempt in an employer-employee decision-making situation vary significantly with the sex of the persuadee?

4. Will there be a significant interaction between the addition of evidence and the sex of the persuader during a persuasive attempt in an employer-employee decision-making situation?

5. Will there be a significant interaction between the addition of evidence and the sex of the persuadee during a persuasive attempt in an employer-employee decision-making situation?

6. Will there be a significant interaction between the sex of the persuader and the sex of the persuadee during a persuasive attempt in an employer/employee decision-making situation?

7. Will there be a significant interaction between the addition of evidence, the sex of the persuader, and the sex of the persuadee during a persuasive attempt in an employer/employee decision-making situation?

Before proceeding any further, there are a number of terms crucial to the study that need to be defined.

Definitions of Terms and Concepts

Evidence--"Factual statements originating from a source other than the speaker and/or opinions of persons, other than the speaker that are offered in support of the speaker's claims."[7a]

Factual Evidence--"Independently verifiable information about a phenomenon, e.g., an occurrence, existence, classification, or characteristic of something."[8]

Opinion Evidence--"A conclusion formed by an expert or lay witness

concerning that phenomenon which is arrived at through a process of reasoning."[9]

Employer/Employee Decision Situations--Operationally defined by 10 descriptive examples which will be utilized in this study. The 10 examples used in this study are presented in Appendix A.

Review of Pertinent Literature

Two kinds of literature seem most relevant to the purpose of this study: (1) experimental studies concerning the effect of evidence upon audience attitudes, (2) experimental studies concerning the effect of additional information in decision-making situations. Although the studies reviewed is not an exhaustive list, but the list seems fairly representative of the type of work done in this field.

Cathcart[10] and Bettinghaus[11] conducted the only studies to produce statistically significant results favoring the inclusion of evidence in a speech designed to achieve attitude change. Studies reported by Gilkinson, Paulson and Sikkink[12] also demonstrated trends favoring the inclusion of evidence, but did not meet normal criterion levels for statistical significance.

Although these studies tend to support the belief that audiences do distinguish between evidence and no evidence, they have two basic limitations from the perspective of the current study. First, all the research dealt with the effect of evidence upon attitude change in a short speech rather than with the effect of evidence upon the perceived stability of decisions. Second, the authors failed to control for the confounding effects of source credibility. Later research by McCroskey and others suggest that the presence of a high-credibility teacher-experimenter would artificially increase the credibility of an unknown,tape-recorded

speaker.[13] McCroskey concluded that sources with high credibility probably would evoke attitude change without the use of evidence because such sources would already have the character of an authority.[14]

Wagner[15] reported the results of an experiment in which the amount of evidence was systematically varied. The results of the experiment indicated that all the speeches changed attitudes including the control group. Thus, evidence did not appear to increase the persuasiveness of the speech.

Anderson[16] tested if the extent of the evidence's citation made a significant difference in attitude change. The experimenter found no difference between no citations and very complete citations in attitude change of audience members. However, subjects listening to complete citations did make significantly higher scores on an information-retention test than did the other subjects. Anderson suggested that perhaps this is because "a listener perceives the citation of a source and the indication of an author's qualifications as meaning: 'Now, this is going to be important; listen carefully.'"[17]

Numerous researchers have attempted to test the effect of varying quality of evidence upon attitude change. Dresser[18] discovered that audiences recognized evidence deficiencies in a speech which utilized evidence from an unreliable source, but did not recognize evidence deficiencies in speeches which utilized irrelevant or inconsistent evidence from reputable sources. Arnold and McCroskey[19] conducted a study which directly investigated the perceived credibility of authority-based assertions. They compared reactions to biased, unbiased, and reluctant opinion statements and found that the unbiased evidence was perceived as most credible; the reluctant testimony received the second highest

ratings and as hypothesized, the biased evidence was found least credible. The surprising discovery in this particular study was that unbiased evidence conditions received more favorable ratings than the reluctant evidence conditions. However, it was attributed that this finding may express differences in initial source credibility and not the nature of the evidence statements. The results of a similar study conducted by Anderson[20] indicated that regardless of the type of evidence attributed to the source, the higher the credibility of the source the greater the credibility of the assertion. The study also supported the theory that reluctant evidence, regardless of the credibility of the source, was perceived as more influential than biased evidence.

The previous research reviewed dealt with the perceived credibility of the evidence itself. Ostermeier[21] tested the effect of evidence on perceived speaker credibility and concluded that any form of evidence significantly increased the speaker's credibility among the audience. Luchok and McCroskey[22] did a similar study, but examined the effect of defective evidence, evidence from questionable sources, and evidence not relevant to the issue discussed on the speaker's credibility. Results indicated that inclusion of defective evidence retarded positive attitude change, particularly for a communicator with moderate initial credibility, and that inclusion of defective evidence led to significantly less positive perceptions of the communicator.

Many of the discrepant results of previous studies might be explained by the experimenter's failure to control for critical factors such as the topic of the speeches. With this in mind, Harte[23] conducted a study which investigated the receivers' attitudes toward evidence in relation to the topic of the message and initial credibility. The results of this

study indicated that when receiver attitudes were initially strong, evidence produced significantly greater long-term attitude change regardless of the initial credibility of the source. However, when subjects held neutral attitudes initially, the inclusion of evidence in the message produced no significant persuasive advantage either immediately afterwards or three weeks following exposure to the message. Thus, the results of Harte's investigation may suggest that the topic of the message is significantly related to evidence effectiveness and the degree of attitude change obtained.

Harte[24] did some additional research to discover how successful an audience is at discriminating between evidence which meets the generally accepted "tests" of evidence and evidence which does not meet those tests. The results of the study indicated that there was no significant difference between the subject's ability to detect unreliable sources and their ability to detect irrelevant evidence. Therefore, the study suggested that audiences do not apply the tests of evidence in the same manner as textbook writers assume they do.

Along this same idea, Kline[25] studied the manner in which subjects select evidence for their speeches. The results indicated that one type of individual chose evidence primarily on source credibility, another on manifest source, another on statement complexity and another on the basis of scientific proof. If this study can be generalized, it may explain the contradictory results of past studies. It may be that previous studies have been influenced by the types of people selected for the experiment.

One approach to clarifying the relationship between evidence and attitude change in communication situations was to examine the differential

effects of evidence attributable to the receiver's personality. Bostrom and Tucker[26] were unable to support the hypothesis of an interaction between evidence and the personality type of the receivers. However, Kline[27] discovered that factual specific evidence makes more of a difference for receivers of high intelligence as compared to those of low intelligence.

Based primarily on his doctoral dissertation, McCroskey[28] attempted to provide data upon which to base meaningful generalizations about the effects of evidence in persuasive messages. He conducted the most comprehensive experimental research completed to date on the role of evidence in messages. Tentatively, he drew these generalizations: (1) Including good evidence has little impact on immediate attitude change or source credibility if the source of the message is initially perceived to be high-credible, (2) Evidence has no impact on attitude change or source credibility if the message is delivered poorly, (3) Evidence has little impact on attitude change if the audience is familiar with the evidence prior to hearing the message.

McCroskey also reported a series of variables which may affect the relationship between evidence, attitude change and credibility. First, there is no reason to believe that the type of media used to study evidence will affect the results. Second, prior knowledge of the audience will cause no significant difference in either attitude change or source credibility. Third, the use of evidence increases the amount of attitude change produced over a period of time. Thus, these factors must be controlled in order to provide a clear understanding of the relationship evidence has with the audience.

In terms of the present study, all of the previous experimental

research dealt only with the effects of evidence upon attitude change and credibility in a short public speech on a current events topic and not with the effects of evidence upon perceived stability of decisions.

Bradac, Sandell, and Wenner[29] have conducted the only study to date utilizing evidence in a decision-making framework. They performed a Q-analysis on data received from three hypothetical decision-making situations and revealed that several types of persons respond differently to the utility of evidence in a situation. Basically, they discovered three categories of people: types which found directive information most useful, types which preferred unknown but competent sources, and types which depended upon sources who were known and trusted regardless of the kind of information the source offered.

The present study differs from the Bradac, et al. research in several aspects. First, the present investigation utilized ten varied decision-making situations compared to only three situations. Second, the decision-making situations were not employer/employee interactions. Third, the objective of the Bradac study was to discover what type of individual preferred what type of evidential information, not to determine if evidence will be influential in changing a decision in a situation as the present study does.

An overall analysis of the research in the area of evidence thus far reviewed, leads to two conclusions.

1. No author has yet conducted a study on the effects of evidence upon the perceived stability of decision in an everyday employer/employee situation similar to those situations people encounter daily.
2. No consistent generalization can be drawn concerning the impact

of evidence upon attitude change since no predictable or repeatable data has been forthcoming from the previous studies.

The second-type of literature to be examined is that research completed utilizing information as a variable in decision-making situations. Five experimental studies will be examined in this area. This is by no means the total work that has been done in the field, but these studies are the most pertinent to the research objectives of the present investigation.

The amount-of-information variable was subjected to an experimental study by Kernan and Mojena.[30] Their results confirmed the common belief that people fail to utilize most of the information to which they have access, and suggest that certain kinds of people as measured by their personality profiles, are exceptionally efficient in the use of available information. Again, as in the evidence studies, the personalities of the subjects being tested may well have had a significant effect on the results of the investigation.

Lashbrook, Snavely, and Sullivan[31] discovered that it takes at least twice as much information to produce attitude change in people who are apathetic if the source was perceived as having low credibility than if the source was perceived as having high credibility. In addition, if the source of information had low credibility, the subjects did not perceive an information overload even though an overload condition was perceived for the same amount of information when the source had high credibility.

Pruitt[32] investigated the informational requirements for changing a decision once it has been made. The results of the study suggested that people will require more information before changing a decision than before making one because of an impatience in the latter case to begin

working toward goals. In a similar study, Cangelosi, Robinson, and Schkade[33] attempted to discover whether or not information influences behavior in choice decisions initially, and the extent to which information increases the rationality of choice. They concluded that generally subjects who received information behaved more rationally in their choice decisions than those that did not. However, the quantity of information received made little difference in the subjects' choices.

In conclusion, the findings of the informational studies have broad implications for the study of an individual's perception in the area of evidence. However, none of the research focuses on evidence as a source of information in a decision-making situation.

While considerable information has been accumulated about the place of evidence in persuasive communication, the surface of this problem area has barely been scratched. Such questions as "What type of evidence (opinion, factual) produces the most favorable impact on an individual?" and "Does evidence function the same way in a public speaking situation as it does in an employer/employee decision-making situation?" need to be answered. Thus, an inherent need exists for more imaginative research in this area. Further justification for focusing upon evidence as a factor in decision-making is provided by social psychologist, Barry Collins. "When an individual is playing the problem-solving game, he is concerned about getting truthful, factually correct information relevant to the problems he wants to solve. Within this framework, evidence may assume the role ascribed to it by traditional theory, i.e., the chief material of proof."[34]

Methods and Procedures

The procedures used in the study are described below. The procedural steps are not presented in chronological sequence, but are organized by subjects, materials, criterion measure, selection of evidence, control of variables, administration of the instrument, and experimental design and statistical treatment of data.

Subjects

240 students enrolled in freshman speech courses at the University of Wisconsin-Oshkosh during the winter semester of 1983 participated in the experiment. All the subjects used in the experiment were undergraduate college students ranging from ages 17 to 28.

Materials

An edited version of a 10-item instrument titled "Decisions" was prepared. Previous research has demonstrated this instrument (when coupled with an 11 step criterion scale) to be sensitive to changes in variables manipulated in the situations.[35]

The instrument describes a situation in which an individual with the power to make a decision has done so. The employer (persuadee) is then approached by his employee (persuader) who attempts to convince the employer to revoke or change the decision.

The situations described in the instrument appear to be representative of the kinds of employer/employee persuasion situations one is likely to confront in the everyday world. The instrument is appended (see Appendix A).

Criterion Measure

For each of the items, the subjects will answer on a response continuum taking one of the following two forms.

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

The two forms of the criterion measure were distributed equally among the situations. The purpose for inverting the continuum throughout the test was to avoid any "order" effects which might occur in the answers given by a subject. The order in which the two forms appeared was randomized as the order of the instances themselves (see below) was randomized.

The subjects were asked to give an answer in terms of a probability estimate that the decision would be changed. One hundred percent meant that the individual was sure it will happen; 0% meant he did not think that there was any chance it will happen. The subject marked his estimate by placing a circle around the number he felt best reflected the probability of the persuader changing the persuadee's decision.

Selection of Evidence

Six individuals who have previously taught argumentation and debate courses or had extensive knowledge in the area of argumentation and debate were asked to construct 10 pieces of evidence to correspond with each situation. Three of the individuals made up factual evidence while the other three individuals prepared opinion evidence. The criterion utilized for composing the evidence was to present the information which would best support the contention of the persuader in each of the 10 situations. A panel composed of three individuals well versed in the area of evidence was used to determine which particular example of opinion evidence and which example of factual evidence in each situation would be used. Each member of the panel ranked the three sample pieces of factual and the three sample pieces of opinion evidence for each situation. The criterion

utilized for ranking the two pools of evidence was whether it was the best example of opinion evidence which supports the contention of the persuader and then the best example of factual evidence which supports the contention of the persuader. The examples of factual and the examples of opinion evidence which received the lowest sum of the rankings for each situation were selected for the instrument. Every piece of evidence selected for the experiment received first rankings from at least two of the three judges.

One question that arose pertained to the degree the evidence was perceived as believable by expert judges. Often the best piece of factual and opinion evidence for a persuasive situation do not appear to be the most believable. So, in addition, the panel rated sample pieces of factual and opinion evidence on the extent to which they thought the evidence was convincing to a rational individual. This was measured by a rating scale ranging from one (very poor) to five (very good). Every piece of evidence selected for the instrument received above a 9 cumulative rating from the combined scores of the three judges.

Another consideration involved whether the factual evidence was unconsciously written to appear more believable than the opinion evidence. Therefore, a student's $\underline{t}$[4] for correlated measures was performed to compare rating scores for factual evidence with the rating scores for the opinion evidence. The $\underline{t}$ was 1.78 and this was not significant at the .05 level. Thus, the $\underline{t}$ test indicated that the experts did not perceive factual evidence as significantly more convincing than the opinion evidence used in this experiment. Table 1 displays the results of the student $\underline{t}$ for correlated measures.

Table 1

Results of the Student t for Correlated Measures

Type of Evidence	n	M	Std. Deviation	t	r
Factual	20	11.15	5.84	1.78	.037
Opinion	20	10.13	5.37		

In conclusion, the majority of the panel of experts were in agreement as to the quality of and believability of the evidence utilized in the study.

Each of the 10 situations were represented by one piece of factual evidence and one piece of opinion evidence. The selections utilized in the experiment are appended (see Appendix B).

Control of Variables

Each of the 10 items on the decision instrument was reproduced in the following manner.

1. The prior editing of the instrument resulted in 10 situations in the following versions:

    a. male persuader, male persuadee;

    b. male persuader, female persuadee;

    c. female persuader, male persuadee;

    d. female persuader, female persuadee.

This resulted in 40 different versions of the 10 situations. Two xerox copies were made of each of the 40 versions.

2. Each of the 40 situations generated "1" was then reproduced so that the persuader was in each instance:

    a. supported by no evidence,

    b. supported by opinion evidence,

c. supported by factual evidence.

This created 12 different versions of each of the 10 situations, resulting in 120 items in total (12 versions x 10 situations). Twenty copies of each of the 120 items were run off resulting in 2400 versions of the 10 situations.

3. The 120 original items and their copies were compiled into 240 10-item 'tests.' Each test was composed of 10 of the 12 possible versions of the employer/employee situations. For example, a test would be composed of the first situation (No Evidence, Female Persuader, Female Persuadee), one copy of the second situation (Opinion Evidence, Female Persuader, Female Persuadee), the third situation (Factual Evidence, Female Persuader, Female Persuadee), the fourth situation (No Evidence, Male Persuader, Male Persuadee) and so on until all of the versions of the 10 situations had been distributed into 240 tests. The order of each situation was randomized in the test.

4. A demographic questionnaire was attached to every test. The purpose of the questionnaire was to find information about the subjects to aid in determining the homogeneity of the experimental group. The demographic questionnaire is appended (see Appendix C).

Administration of the Test

The test was administered to 240 subjects with the following instructions: "In the following situations, a variety of different decisions have to be made. You are to draw upon your familiarity with similar real-life situations that you have encountered to judge which way a decision will go. Each of the answers is to be given in terms of a probability estimate. One hundred percent means you are sure it will happen; 0% means you do not think that there is any chance it will happen.

Mark your estimate by placing a circle around it. Think the situations over carefully. Try to put yourself in the shoes of all parties in the stories when you make your estimates."

Design and Statistical Treatment of Data

The design utilized for this research project was a 3 x 2 x 2[36] factorial. The independent variables were three levels of evidence--opinion, factual and no evidence; two levels of sex of the persuader; and two levels of sex of the persuadee. The dependent variable was the subjects' responses to the 10 hypothetical situations.

In order to determine if the cells of the matrix were homogeneous, a F_{max}[37] was computed between the two extreme cells. The result of the F_{max} test revealed a significant difference existed between the two cells. However, Lindquist says on the basis of Norton's data, that unless variances are so heterogeneous as to be readily apparent, that is, relatively large differences exist, the effect of the F test will probably be negligible.[38] Poneau confirms this. He says that in a large number of research situations, the probability statements resulting from the use of t and F tests, even when these two assumptions are violated, will be highly accurate.[39]

The raw scores within each cell of the matrix were squared and summed. A factorial analysis was then computed to discover any significant effects due to evidence, any significant effects due to sex, and any significant effects that might have occurred between variables.[40] If any significant F ratios were found, a Scheffe post hoc test[41] was used to discover the source of the difference.

Results and Conclusions

This section presents the results of the statistical tests performed

on the experimental data. Interpretation and discussion of these results will be presented in the second part of this section. The .05 level of significance was used for all statistical tests.

Results

Twenty subjects per cell appeared to be a reasonable number to use for the analysis of the three variables. Thus, all of the 12 cells in the factorial analysis contained the scores of exactly 20 subjects.

The results of the factorial analysis of variance are summarized in Tables 2 - 8.

Factor 1--Evidence

> Is there a difference in the perceived stability of a decision in employer-employee decision-making situations in which no formal evidence appeared and those same situations to which fact evidence has been added and to which opinion evidence has been added?

The analysis of variance on the evidence factor addressed the first research question of this study. The results of the analysis of variance on the evidence factor are summarized in Table 2.

Table 2

Analysis of Variance Values for the Evidence Factor

Source	SS	df	MS	F
Between Groups	943.50	2	471.75	60.64*
Within Groups	18,570.34	2388	7.78	

The F value of 60.64 is significant at the .05 level. This finding supports the concept that the evidence factor during a persuasive attempt in an everyday decision situation decreases the perceived stability of the decision.

Factor 2--Sex of the Persuader

The analysis of variance on the sex of the persuader factor addressed the second research question of this study:

> Will the perceived stability of the decision during a persuasive attempt in an employer-employee decision-making situation vary significantly with the sex of the persuader?

The results of the analysis of variance on the sex of the persuader factor are summarized in Table 3.

Table 3

Analysis of Variance Values for the Persuader Factor

Source	SS	df	MS	F
Between Groups	12.04	1	12.04	1.55
Within Groups	18,570.34	2388	7.78	

The F value of 1.55 is not significant at the .05 level. This finding fails to support the concept that the perceived stability of the decision will vary significantly depending upon the sex of the persuader.

Factor 3--Sex of the Persuadee

The analysis of variance for the persuadee factor addressed the third research question of this study:

> Will the perceived stability of the decision during a persuasive attempt in an employer-employee decision-making situation vary significantly with the sex of the persuadee?

The results of the analysis of variance on the sex of the persuadee factor are summarized in Table 4.

The F value of 1.41 is not significant at the .05 level. This finding fails to support the hypothesis that the stability of the decision in a persuasive situation will vary significantly depending upon the sex of the persuadee.

Table 4

Analysis of Variance Values for the Persuadee Factor

Source	SS	df	MS	F
Between Groups	10.93	1	10.93	1.41
Within Groups	18,570.34	2388	7.78	

Interaction of Factor 1 and Factor 2

The analysis of variance of the interaction between the evidence factor and the sex of the persuader factor addressed the fourth question of this study:

> Will there be a significant interaction between the addition of evidence and the sex of the persuader during a persuasive attempt in an employer-employee decision-making situation?

The results of the analysis of variance between the interaction of the evidence factor and the sex of the persuader factor are summarized in Table 5.

Table 5

Analysis of Variance Values for the Interaction of Factor 1 and Factor 2

Source	SS	df	MS	F
Between Groups	.68	2	.34	.044
Within Groups	18,570.34	2388	7.78	

The F value of .044 is not significant at the .05 level. This finding fails to support the concept that the stability of a decision in a persuasive situation will very significantly depending upon the inclusion of evidence and the sex of the persuader.

Interaction of Factor 1 and Factor 3

The analysis of variance for the interaction between the evidence factor and the sex of the persuadee factor addressed the fifth question of this study:

> Will there be a significant interaction between the addition of evidence and the sex of the persuadee during a persuasive attempt in an employer-employee decision-making situation?

The results of the analysis of variance are summarized in Table 6.

Table 6

Analysis of Variance Values for the Interaction of Factor 1 and Factor 3

Source	SS	df	MS	F
Between Groups	1.55	2	.78	.100
Within Groups	18,570.34	2388	7.78	

The F value of .100 is not significant at the .05 level. Therefore, this finding fails to support the hypothesis that the stability of a decision in a persuasive situation will vary significantly depending upon the inclusion of evidence and the sex of the persuadee.

Interaction of Factor 2 and Factor 3

The analysis of variance for the interaction between the sex of the persuader factor and the sex of the persuadee factor addressed the sixth research question of this study:

> Will there be a significant interaction between the sex of the persuader and the sex of the persuadee during a persuasive attempt in an employer-employee decision-making situation?

The results of the analysis of variance are summarized in Table 7.

The F value of .91 is not significant at the .05 level. Thus, this finding fails to support the hypothesis that the stability of a decision in a persuasive situation will vary significantly depending upon the

sex of the persuader and the sex of the persuadee.

Table 7

Analysis of Variance Values for the Interaction of Factor 2 and Factor 3

Source	SS	df	MS	F
Between Groups	7.03	1	7.03	.90
Within Groups	18,570.34	2388	7.78	

Interaction Between Factor 1, Factor 2, and Factor 3

The analysis of variance for the interaction between the evidence factor, the sex of the persuader factor, and the sex of the persuadee factor addressed question seven of this study:

> Will there be a significant interaction between the addition of evidence, the sex of the persuader, and the sex of the persuadee during a persuasive attempt in an employer-employee decision-making situation?

The results of the analysis of variance are summarized in Table 8.

Table 8

Analysis of Variance Values for the Interaction of Factor 1, Factor 2, and Factor 3

Source	SS	df	MS	F
Between Groups	36.25	2	18.13	2.33
Within Groups	18,570.34	2388	7.78	

The F value of 2.33 is not significant at the .05 level. This finding, therefore, fails to support the hypothesis that the stability of a decision in a persuasive situation will vary significantly depending upon the inclusion of evidence, the sex of the persuader, and the sex of the persuadee.

Scheffé Test for Multiple Comparisons

Since a significant difference was discovered between the F values of the evidence factor, a Scheffé post hoc test was utilized to isolate the source of the difference.

The results of the Scheffé test are summarized in Table 9.

Table 9

Scheffé Test for Comparisons of the Three Levels of Evidence

	D	D^2	i^a
N.E. vs. O.E.	$(825)^2$	680,625	54.96
N.E. vs. F.E.	$(1201)^2$	1,442,401	116.47
O.E. vs. F.E.	$(376)^2$	141,376	11.42

F Prime--9.24 at .05 level of significance.

N.E.--No Evidence
O.E.--Opinion Evidence
F.E.--Factual Evidence

Since the F prime was 9.24 and the comparisons of no evidence to opinion evidence (a_1 = 54.96), no evidence to factual evidence (a_1 = 116.47), and opinion evidence to factual evidence (a_1 = 11.42) were significantly above this figure--the author concluded the following:

(1) The results from the Scheffé test indicate that opinion evidence was perceived as more influential in changing a decision in a persuasive situation than no evidence.

(2) Factual evidence was perceived as more influential in changing a decision in a persuasive situation than no evidence.

(3) Factual evidence was also perceived as superior to opinion evidence for influencing a decision change during a persuasive everyday situation.

Conclusions

This section presents the conclusions of the results reported previously. Several potential explanations concerning those results will be advanced and suggestions will be made for future research.

However, the conclusions of this research must be limited by several factors. First, the use of college students as subjects in this study restrict the results of the research. The college population differs from the general population in many ways, but one of the most important is that the average intelligence of college students is well above that of the general population.[42] Subjects of varying intelligence levels may react differently to the evidence. Therefore, the experimental population utilized in this study is not representative of the general population.

Second, the investigation did not take place within the framework of a live decision-making situation. The experiment utilized only a written exercise to explore the effects of evidence within the decision-making process. Use of evidence within a live persuasive decision-making situation may render different results.

Within these limitations of this research, the results support the following conclusions:

1. The addition of opinion evidence during a persuasive attempt in an everyday situation decreases the perceived stability of the decision significantly as compared to no evidence.

2. The addition of factual evidence during a persuasive attempt in an everyday situation decreases the perceived stability of the decision significantly as compared to no evidence.

3. The addition of factual evidence during a persuasive attempt

in an everyday situation decreases the perceived stability of the decision significantly as compared to opinion evidence.

4. The perceived stability of the decision with the addition of evidence did not vary significantly depending upon the sex of the persuader or the persuadee.

5. There were no significant relationships between any of the three factors--evidence, sex of the persuader, and sex of the persuadee.

These conclusions are contrary to the majority of previous research studies completed in the area of evidence. However, the conclusion's of this study do support the theory that the listener's perception of the importance of the decision to be made can affect the impact of evidence.[43] Hayakawa also has expressed that people are more likely to act rationally when making important decisions than they are when making trivial decision.[44] Therefore, if the listener views the decision to be made as unimportant, evidence will probably make little difference.

These conclusions also give credence to the theory advanced by Asch--individuals will use all available information in making a decision. Thus, treating evidence as a source of additional information for a decision-making situation appears to be a more accurate means of assessing the evidential effect as compared to evidential support added to a public speech.

Finally, these conclusions support the concept that the quality of information obtained will make a difference in the perceived stability of a decision. Contrary to previous studies that measured the net persuasive effects of opinion and factual evidence, the results from this investigation indicate factual evidence superior when compared to opinion evidence in decreasing the perceived stability of a decision in an

everyday situation.

Implications For Future Research

The most obvious implication of this research is that further replications are needed of this study. The fact that the findings reported from this research directly contradict the majority of previous evidence studies including those of McCroskey, Kline, and Dresser is reason enough for this replication.

Future replications of this study should strive for careful replication of the methodology with particular attention to the measurement scale. Further investigation is necessary to determine the reliability of the 11 point criterion measure. Manipulation checks need to be designed carefully to measure experimental variables more accurately.

In addition to the need for replication, the present study suggests other directions for future research which might offer profitable contributions to our understanding of the variables which affect the impact of evidential support. Further research studies are needed to answer some of the following questions.

1. Can evidence from non-credible sources serve as well as evidence from credible sources during a persuasive attempt in an everyday situation?

2. Will the perceived stability of a decision with the addition of evidence vary significantly if the persuader is a group and the persuadee is an individual or vice-versa?

3. What effect does the "social" role or "position" of the persuader in relation to the person he is trying to persuade bear upon the impact of evidential support in an everyday situation?

4. Does evidence function the same way in various cultures?

All the previous evidentiary studies have been conducted in the U. S. middle class culture.

5. Do non-students respond to evidence the same way as students in an everyday decision-making situation? Most of the subjects in the studies to date have been college students.

There may not be one explanation of why evidence does or does not enhance a persuasive attempt. Several explanations appear plausible depending upon the circumstances involved in a given situation. Thus, a need exists to further examine the variables related to persuasive attempts in everyday employer/employee situations and evidence should continue to be one of the major variables under investigation.

Appendix A

The 10 Item Instrument

1. The art films instructor, Dr. Gerald P, of a small college would like to bring in a certain X-rated film which contains a number of erotic scenes. The instructor knows that his chairman, Dr. John C. has a personal policy of strict censorship toward any form of adult entertainment. The art films instructor feels this film is socially relevant and hopes to persuade his chairman.

2. Ms. Jane A., a publishing editor, has just finished rewriting Chapter 4 of a children's reader for the Macmillan Publishing Company. She has asked Ms. Mary M., her secretary, to read the chapter and make comments before she sends it in for the final review. Ms. M. feels that she has written the chapter in language far too advanced for the age group intended to use it and that it will be rejected.

3. Mr. Steve L., a newly hired book buyer for a large downtown bookstore, has decided to buy a new line of books, most of which have parts considered to be pornographic by many people. Miss Sally O., his boss and manager of the bookstore, is afraid that these books will drive away quite a few of the regular customers.

4. Mrs. Elaine T., the manager of an old established restaurant, has decided to buy new furnishings for the restaurant. She wants to buy large wooden furniture because she thinks it will make the restaurant look more elegant. Miss Susan K., a waitress at the restaurant, feels that light modern furniture would be better because it is less bulky and will give the restaurant more seating space.

5. Mr. Carl B., the business manager of a small free medical clinic, feels that although the clinic has been in operation at the same location for three years, it should be moved to another location a mile away because there is a larger building available. Mrs. Dorothy P., a nurse, feels that such a move would be bad because the current patients would not be able to go so far away.

6. Mr. Doug B., a director of a large mental hospital, has stopped all visitors for a particular patient. Mr. George K., a psychiatrist at the hospital, feels this order is upsetting the patient and would like to convince the director to change the order. He knows that the director has previously been receptive to suggestions and therefore plans to approach him directly.

7. Ms. Helen D., a teacher in a large city system, failed to gain tenure at the time she became eligible because of a complaint from the principal Mrs. Grace S. The basis for the complaint was the seemingly unstructured and lax method of teaching which was not in line with what the principal felt best for the students. Ms. D. feels she has been unfairly judged and wishes to convince the principal to change her judgment.

8. Mr. Ray K has recently been informed that he will be "let go" as bookkeeper because of a rather costly recent error. Mr. K feels this action is highly unfair because of his past history of competence and because of the extenuating circumstances surrounding this particular error. He has requested an appointment with Ms. Jane D., his boss, to try to convince her.

9. Mr. Dennis E wants to suggest a topic for a panel discussion for an employees' training day at work. He has been informed that his boss has already selected the topic for the panel. Mr. E has, however, become very interested in a certain current topic which he wishes to have discussed by the panel, and has decided to try to convince his boss, Mrs. Panela C, to change the topic.

10. The owner of a large corporation, Mr. Craig J, is going to consider a proposal to make mandatory retirement at age 60. Mrs. Harriet G, the personel director of the corporation, is strongly opposed to this proposal because she feels that people should not be "sent out to pasture" just because they have reached a particular age. Mrs. G has made an appointment to try to dissuade the corporation owner from consideration of such a proposal.

Appendix B

Evidence Included in the 20 Item Instrument

Item 1

Factual Evidence

Dr. Gerald P. points out that the movie has received five awards for being an outstanding film by the National Educational Association and is recommended highly by the association.

Opinion Evidence

Dr. Gerald P. tells his colleague that: Dr. Norman Rivkin, Professor of Art at Yale University and former member of the Catholic Film Censorship Board stated, "Although this film incorporates certain scenes which some may find objectionable, the filming of them was so tastefully done that they became a natural part of the sequence of events. More importantly, the scenes are absolutely essential to the point of the film--a point to which all thinking persons should be exposed."

Item 2

Factual Evidence

Ms. Mary M. shows Jane A. a list of vocabulary words compiled by the National Elementary Education Association that second graders and a list that fourth graders are supposed to know and points out that the majority of the words in the chapter are not on the second grade list, but instead found on the list for the fourth graders.

Opinion Evidence

In order to persuade Ms. Jane A. that the chapter is too advanced, Ms. Mary M. has secured comments from two other teachers who teach the age group in question and they also feel the chapter is too advanced.

Item 3

Factual Evidence

Miss Sally O. shows Mr. Steve L. a list of hard-to-sell books compiled by the bookstore owners across the nation. The majority of books that he wishes to purchase appear on this list.

Opinion Evidence

Miss Sally O. points out that the New York Times Literary Magazine has predicted a trend away from this type of literature in the future because of an antagonistic reaction to it by the older readers, who comprise the majority of subscribers to the magazine.

Item 4

Factual Evidence

Miss Susan K. points out that there are often long lines outside the restaurant and many potential customers leave. Thus, more seating space would alleviate this problem.

Opinion Evidence

Miss Susan K. knows that their mutual friend, an interior decorator, also favors the modern furniture and hopes that telling the assistant manager about the decorator's opinion will be persuasive.

Item 5

Factual Evidence

Mrs. Dorothy P. shows Carl B. the personal records of their patients which showed that nearly 80% of them did not own cars and 60% of them had no access to a transportation vehicle.

Opinion Evidence

Mrs. Dorothy P. points out that at the time the clinic was originally located three years ago, local surveys showed that most of the indigent patients favored the present location because of its accessibility.

Item 6

Factual Evidence

Mr. George K. has checked the patient's records which show that in a past instance when the patient was denied visitation, the patient's symptoms became much more severe.

Opinion Evidence

Mr. George K. states, "Another psychiatric aide who has worked with the patient has told me that the patient has told him of being depressed since Monday. Since the only change in her routine was the suspension of visitation rights, the aide thought that her lack of contact with the outside world might be the cause of her depression."

Item 7

Factual Evidence

Ms. Helen D. points out to the principal that according to the National Education Achievement test that her students took a month earlier, her class scored in the top 30% across the nation.

Opinion Evidence

Ms. Helen D. has examined a number of education textbooks and has compiled a list of educational authorities who recommend methods similar to her own.

Item 8

Factual Evidence

Ray K. has compiled a record of the savings his bookkeeping has brought about in recent years that shows that he has saved the company much more money than the error cost.

Opinion Evidence

Mr. Ray K. tells Jane D. that, "The last two persons who held your job always regarded me as an excellent worker and you can call them to confirm that. Even your boss told me that I shouldn't worry about the mistake, since it was such an unusual situation he might have made a similar error himself."

Item 9

Factual Evidence

Mr. Dennis E. has collected a number of documents which show facts and figures that indicate the topic is one of vital interest to the group.

Opinion Evidence

Mr. Dennis E. states, "Two other members of the group were absent when the topic was chosen and they have each told me that they think it is unfair to choose a topic without giving everyone a chance for input."

Item 10

Factual Evidence

Mrs. Harriet G. intends to present statistics from a federal agency showing that employees over 60 are frequently the most dependable and productive workers in a firm.

Opinion Evidence

Mrs. Harriet G. points out that the American Journal of Commercial Psychology states that according to several business managers' opinions, an individual's long experience with a firm more than compensates for loss of mental sharpness due to age.

Endnotes

[1]Richard E. Gregg, "Some Hypotheses for the Study of the Psychology of Evidence" (paper presented at the 1966 SCA Concention).

[2]S. E. Asch, Social Psychology (Englewood Cliffs, N.J.: Prentice-Hall, 1952).

[3]James J. Bradac, Karin L. Sandell and Lawrence A. Wenner, "The Phenomenology of Evidence: Information-Source Utility in Decision Making," Communication Quarterly, (Fall, 1979), 35-46.

[4]Dale Hample, "Testing a Model of Value Argument and Evidence," Communication Monographs, 44, (June, 1975), 106-119.

[5]S. Lindskold and S. Foster, "Effects of Group and Relationship on Perceptions of Stability," Perceptual and Motor Skills, 40 (1975), 223-229.

[6]Everett M. Rogers and Rekha Agarwala-Rogers, Communications in Organizations (New York: The Free Press, 1976), p. 54=65.

[7]William Dresser, "Studies of the Effects of Evidence: Implications or Forensics," American Forensics Association Register, (1962), p. 17.

[7a]James C. McCroskey, "A Summary of Experimental Research on the Effects of Evidence in Persuasive Communication," The Quarterly Journal of Speech, 55 (April, 1969), 169.

[8]Robert C. Dick, Argumentation and Rational Debating (Debuque: Wm. C. Brown Company, Publishers, 1972). p. 22.

[9]Ibid., p. 22.

[10]Robert S. Cathcart, "An Experimental Study of the Relative Effectiveness of Four Methods of Presenting Evidence," Speech Monographs, 22 (Aug. 1955), 227.

[11]Erwin Bettinghaus, "The Relative Effect of the Use of Testimony in a Persuasive Speech Upon the Attitudes of Listeners" (unpublished MA thesis, Bradley University, 1953).

[12]Howard Gilkinson, Stanley Paulson, and Donald Sikkink, "Effects of Order and Authority in an Argumentative Speech," The Quarterly Journal of Speech, 40 (April, 1954), 184-186.

[13]Op, Cit., McCroskey, 1969, p. 171.

[14]Ibid., p. 175.

[15]Gerard Alvin Wagner, "An Experimental Study of the Relative Effectiveness of Varying Amounts of Evidence in a Persuasive Communication" (unpublished MA thesis, Mississippi Southern College, 1958).

[16]Delmar C. Anderson, "The Effect of Various Uses of Authoritative Testimony in Persuasive Speaking," (unpublished MA thesis, Ohio State University, 1958).

[17]Ibid., p. 62.

[18]Op Cit., Dresser, 1962, p. 43.

[19]William E. Arnold and James C. McCroskey, "The Credibility of Reluctant Testimony," Central States Speech Journal, 18 (May, 1967), 97-103.

[20]Loren Anderson, "An Experimental Study of Reluctant and Biased Authority-Based Assertions," Journal of the American Forensic Association, 7 (Spring, 1970), 79-85.

[21]Terry H. Ostermeier, "Effects of Type and Frequency of Reference Upon Perceived Source Credibility and Attitude Change," Speech Monographs, 34 (1967), 137-144.

[22]Joseph A. Luchok and James C. McCroskey, "The Effect of Quality of Evidence on Attitude Change and Source Credibility," Southern Speech Communication Journal, (Summer, 1978), 371-383.

[23]Thomas Harte, "The Effects of Evidence in Persuasive Communication," Central States Speech Journal, 27 (Spring, 1976), 43.

[24]Ibid., pp. 42-46.

[25]John Kline, "An Q-Analysis of Encoding Behavior in the Selection of Evidence," Speech Monographs, 38 (Aug., 1971), 190-197.

[26]Robert N. Bostrum and Raymond Tucker, "Evidence, Personality, and Attitude Change," Speech Monographs, 36 (1969), 22-27.

[27]Op. Cit., Kline, 1971, p. 197.

[28]Op. Cit., McCroskey, 1969, p. 176.

[29]Op. Cit., Bradac, 1979.

[30]Jerome B. Kernan and Richard Mojena, "Information Utilization and Personality," Journal of Communication, 23, (Sept. 1973), 315-327.

[31]William B. Lashbrook, William B. Snavely and Daniel L. Sullivan, "The Effects of Source Credibility and Message Information Quantity on the Attitude Change of Apathetics," Communication Monographs, 44 (August, 1977), 257-262.

[32]Dean G. Pruitt, "Informational Requirements in Making Decisions," Journal of Communication, 16 (Sept., 1969), 433-439.

[33]Vincent E. Cangelosi, D.M. Robinson, and L. L. Schkade, "Information and Rational Choice," Journal of Communication, 18 (June, 1968), 131-143.

[34]Barry Collins, Social Psychology: Social Influence, Attitude Change, Group Processes and Prejudice, (Menlo Park, Calif.: Addison-Wesley Publishing Co., 1970), pp 25-33.

[35]Op. Cit., Lindskold and Foster, (1975), 224.

[36]James L. Bruning and B. L. Kintz, Computational Handbook of Statistics, (Glenview, ILL.: Scott, Foresman and Company, 1968), p. 30.

[37]Ibid., p. 110.

[38]E. Lindquist, Design and Analysis of Experiments, (Boston: Houghton Mifflin, 1953), p. 81.

[39]C. Boneau, "The Effects of Violations of Assumptions Underlying the t Test," Psychological Bulletin, 58 (1961), 62.

[40]Op. Cit., Bruning and Kintz, (1968), pp. 30-37.

[41]Allen Edwards, Experimental Design in Psychological Research, (New York: Holt, Rinehart, and Winston, 1963), p. 154.

[42]John Kline, "Interaction of Evidence and Readers' Intelligence on the Effects of Short Messages," Quarterly Journal of Speech, 55 (Dec. 1969), 407.

[43]Op. Cit., Collins, (1970).

[44]S. I. Hayakawa, "Why the Edsel Laid an Egg: Motivational Research vs. the Reality Principle," in S. I. Hayakawa (ed.), The Use and Misuse of Language, (Greenwich, Conn.: Fawcett Publications, Inc., 1962), p. 173.